

In the claims:

Please amend the claims as follows:

1. (Previously amended) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of the first component; and

heating the surface to bond the surface to the thermoplastic bonding component.

2. (Original) The method of claim 1, further comprising applying pressure to the surface and the thermoplastic bonding component.

3. (Original) The method of claim 2, wherein pressure is applied during heating.

4. (Original) The method of claim 1, wherein the surface and the thermoplastic bonding component are substantially free of liquid adhesive.

5. (Original) The method of claim 1, further comprising contacting a second component of the ink jet printing module having a surface with the thermoplastic bonding component; and heating the surface to bond the surface to the thermoplastic bonding component.

6. (Original) The method of claim 1, wherein the first component of the ink jet printing module is a piezoelectric element.

7. (Original) The method of claim 6, wherein the thermoplastic bonding component includes an electrode pattern.

8. (Original) The method of claim 6, wherein the piezoelectric element is lead zirconium titanate.

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9. (Original) The method of claim 1, wherein the thermoplastic bonding component has a thickness between 1 micron and 150 microns.

10. (Original) The method of claim 1, wherein the thermoplastic bonding component has a thickness between 10 micron and 125 microns.

11. (Original) The method of claim 1, wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

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12. (Original) The method of claim 1, wherein the thermoplastic bonding component includes an adhesive polyimide.

13. (Currently amended) The method of claim 1, wherein the ink jet printing module includes an ink channel, ~~the~~ a piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

14. (Original) The method of claim 13, wherein the ink jet printing module includes a series of channels.

15. (Original) The method of claim 13, wherein the thermoplastic bonding component is placed over the ink channel and includes a filter.

16. (Original) The method of claim 15, wherein the filter includes a repeating pattern of units having a plurality of openings.

17. (Original) The method of claim 16, wherein a land between the units is at least 50 microns.

18. (Original) The method of claim 1, wherein the module includes an orifice plate and the method further comprises adhering a protector strip over the orifice plate.

19. (Original) The method of claim 18, wherein the orifice plate includes a thermoplastic bonding material adjacent to the protector strip.

20. (Previously amended) The method of claim 18, wherein the protector strip includes a thermoplastic bonding material adjacent to the orifice plate.

21. (Previously amended) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of the first component;

contacting a second component of the ink jet printing module having a surface with the thermoplastic bonding component; and

heating the surface to bond the surfaces to the thermoplastic bonding component.

22. (Original) The method of claim 21, further comprising applying pressure to the surface and the thermoplastic bonding component.

23. (Original) The method of claim 21, wherein pressure is applied during heating.

24. (Original) The method of claim 21, wherein the surface and the thermoplastic bonding component are substantially free of liquid adhesive.

25. (Original) The method of claim 21, wherein the first component of the ink jet printing module is a piezoelectric element.

26. (Original) The method of claim 21, wherein the ink jet printing module includes an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

27. (Original) The method of claim 26, wherein the thermoplastic bonding component is placed over the ink channel and includes a filter including a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

28. (Original) The method of claim 21, wherein the module includes an orifice plate and the method further comprises adhering a protector strip over the orifice plate.

29. (Previously amended) An ink jet printing module comprising a piezoelectric element having a surface, and a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of a first component heat-bonded to the surface.

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30. (Previously amended) The ink jet printing module of claim 29, wherein the thermoplastic bonding component includes a first surface heat-bonded to the surface of the piezoelectric element and a second surface heat-bonded to a surface of a component of the ink jet printing module.

31. (Original) The ink jet printing module of claim 29, wherein the thermoplastic bonding component includes an electrode pattern.

32. (Original) The ink jet printing module of claim 29, wherein the piezoelectric element is lead zirconium titanate.

33. (Original) The ink jet printing module of claim 29, wherein the thermoplastic bonding component has a thickness between 1 micron and 150 microns.

34. (Original) The ink jet printing module of claim 29, wherein the thermoplastic bonding component has a thickness between 10 micron and 125 microns.

35. (Original) The ink jet printing module of claim 29, wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

36. (Original) The ink jet printing module of claim 29, wherein the thermoplastic bonding component includes an adhesive polyimide.

37. (Original) The ink jet printing module of claim 29, further comprising an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

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38. (Original) The ink jet printing module of claim 37, further comprising a series of channels.

39. (Original) The ink jet printing module of claim 38, wherein each of said channels is covered by a single piezoelectric element.

40. (Original) The ink jet printing module of claim 37, wherein the thermoplastic bonding component covers the ink channel and includes a filter.

41. (Original) The ink jet printing module of claim 40, wherein the filter including a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

42. (Previously amended) The ink jet printing module of claim 41, wherein the filter has a width of 300 to 495 microns.

43. (Original) The ink jet printing module of claim 29, further comprising an orifice plate and a protector strip adhered to the orifice plate, wherein either the orifice plate or the protector strip includes a thermoplastic bonding material.

44. (Previously added) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component; and

heating the surface to bond the surface to the thermoplastic bonding component wherein the first component of an ink jet printing module includes lead zirconium titanate.

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45. (Currently amended) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component; and

heating the surface to bond the surface to the thermoplastic bonding component wherein the ~~the~~ ink jet printing module includes an ink channel, a piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element and wherein the thermoplastic bonding component is placed over the ink channel and includes a filter.

46. (Currently amended) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component;

contacting a second component of the ink jet printing module including a orifice plate having a surface with the thermoplastic bonding component; and

adhering a peelable protector strip over an orifice of the orifice plate.

47. (Previously added) The method of claim 1 wherein the thermoplastic bonding component includes a plurality of openings.

48. (Previously added) The method of claim 21 wherein the thermoplastic bonding component includes a plurality of openings.

49. (Previously added) The ink jet module of claim 29 wherein the thermoplastic bonding component includes a plurality of openings.

50. (Previously added) The method of claim 45 wherein the filter includes a repeating pattern of units having a plurality of openings.

51. (Previously added) The method of claim 50, wherein a land between the units is at least 50 microns.

52. (Previously added) An ink jet printing module comprising a piezoelectric element having a surface, and a thermoplastic bonding component heat-bonded to the surface, wherein the thermoplastic bonding component has a thickness between 1 micron and 150 microns.

53. (Previously added) The ink jet printing module of claim 52, wherein the thermoplastic bonding component has a thickness between 10 microns and 125 microns.

54. (Previously added) The ink jet printing module of claim 52, wherein the thermoplastic bonding component has a thickness between 20 and 50 microns.

55. (Previously added) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes a first surface heat-bonded to the surface of the piezoelectric element and a second surface heat-bonded to a surface of an ink jet printing module component.

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56. (Previously added) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes an electrode pattern.

57. (Previously added) The ink jet printing module of claim 52, wherein the piezoelectric element is lead zirconium titanate.

58. (Previously added) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes a polyimide.

59. (Previously added) The ink jet printing module of claim 52, further comprising an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

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60. (Previously added) The ink jet printing module of claim 59, further comprising a series of channels.

61. (Previously added) The ink jet printing module of claim 60, wherein each of said channels is covered by a single piezoelectric element.

62. (Previously added) The ink jet printing module of claim 59, wherein the thermoplastic bonding component covers the ink channel and includes a filter.

63. (Previously added) The ink jet printing module of claim 62, wherein the filter including a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

64. (Previously added) The ink jet printing module of claim 63, wherein the width is 300 to 495 microns.

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65. (Previously added) The ink jet printing module of claim 52, further comprising an orifice plate and a protector strip adhered to the orifice plate, wherein either the orifice plate or the protector strip includes a thermoplastic bonding material.